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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,736

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EXAMINER

FEELY, MICHAEL J

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

12/04/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/562,736	Applicant(s) KIUCHI ET AL.	
	Examiner Michael J. Feely	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1 and 5-53 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1 and 5-53 are pending.

Response to Amendment

1. The amendment filed September 11, 2009 has necessitated a new restriction requirement. Accordingly, the previous restriction requirement (*mailed May 13, 2009*) has been withdrawn.

Election/Restrictions

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

- **Group I**, claim(s) 1 (with dependent claims 5-19 & 51-53), drawn to an epoxy composition featuring:
 - An epoxy resin (A) including epoxy compound (G), wherein (G):
 - is represented by one of the general formulas (11)-(16);
 - includes at least one of: structural unit X' (*of formula 9*), structural unit Y' (*of formula 10*), and a combination thereof;
 - wherein X' or Y', alone, is present in a total of **1-11 repeat units** ($0 \leq n \leq 10$); and

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- wherein X' and Y', in combination, are present in a total of **2-11 repeat units** ($1 \leq (m+m') \leq 10$);
- A curing agent (B) including phenol resin (F), wherein (F):
 - is represented by one of the general formulas (3)-(8);
 - includes at least one of: structural unit X (*of formula 1*), structural unit Y (*of formula 2*), and a combination thereof;
 - wherein X or Y, alone, is present in a total of **12-75 repeat units** ($10 < n < 75$); and
 - wherein X and Y, in combination, are present in a total of **12-75 repeat units** ($10 < (m+m') < 75$).
- **Group II**, claim(s) 20 (with dependent claims 22-38), drawn to an epoxy composition featuring:
 - An epoxy resin (A) including epoxy compound (H), wherein (H):
 - is represented by one of the general formulas (35)-(40);
 - includes at least one of: structural unit X' (*of formula 9*), structural unit Y' (*of formula 10*), and a combination thereof;
 - wherein X' or Y', alone, is present in a total of **12-75 repeat units** ($10 < n < 75$); and
 - wherein X' and Y', in combination, are present in a total of **12-75 repeat units** ($10 < (m+m') < 75$);
 - A curing agent (B).

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- **Group III**, claim(s) 21 (with dependent claims 22-38), drawn to an epoxy composition featuring:
 - An epoxy resin (A) including epoxy compound (H), wherein (H):
 - is represented by one of the general formulas (35)-(40);
 - includes at least one of: structural unit X' (*of formula 9*), structural unit Y' (*of formula 10*), and a combination thereof;
 - wherein X' or Y', alone, is present in a total of **12-75 repeat units** ($10 < n < 75$); and
 - wherein X' and Y', in combination, are present in a total of **12-75 repeat units** ($10 < (m + m') < 75$);
 - An curing agent (B) including phenol resin (F), wherein (F):
 - is represented by one of the general formulas (21)-(26);
 - includes at least one of: structural unit X (*of formula 1?*), structural unit Y (*of formula 2?*), and a combination thereof;
 - wherein X or Y, alone, is present in a total of **1-11 repeat units** ($0 \leq n \leq 10$); and
 - wherein X and Y, in combination, are present in a total of **2-11 repeat units** ($1 \leq (m + m') \leq 10$)
- **Group IV**, claim(s) 39 (with dependent claims 40-50), drawn to an epoxy composition featuring:
 - An epoxy resin (A) including epoxy compound (E'), wherein (E'):
 - is an epoxy compound of phenol resin (E) (*see below*)

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- A curing agent (B) including phenol resin (E), wherein (E):
 - includes at least one of: structural unit X (*of formula 1*), structural unit Y (*of formula 2*), and a combination thereof;
 - features an unspecified overall structure, which is open to any overall structure including X, Y or a combination thereof; and
 - wherein X, Y or a combination thereof are present in any total of repeat units.

3. The inventions listed as Groups I, II, III, and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

In Group I, the special technical feature appears to be a combination of the following materials: **(A)** an epoxy compound (G): represented by one of the general formulas (11)-(16); including at least one of: structural unit X' (*of formula 9*), structural unit Y' (*of formula 10*), and a combination thereof; wherein X' or Y', alone, is present in a total of **1-11 repeat units** ($0 \leq n \leq 10$); and wherein X' and Y', in combination, are present in a total of **2-11 repeat units** ($1 \leq (m+m') \leq 10$); and **(B)** a phenol resin (F): represented by one of the general formulas (3)-(8); including at least one of: structural unit X (*of formula 1*), structural unit Y (*of formula 2*), and a combination thereof; wherein X or Y, alone, is present in a total of **12-75 repeat units** ($10 < n < 75$); and wherein X and Y, in combination, are present in a total of **12-75 repeat units** ($10 < (m+m') < 75$).

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In Group II, the special technical feature appears to be a combination of the following materials: **(A)** epoxy compound (H): represented by one of the general formulas (35)-(40); including at least one of: structural unit X' (*of formula 9*), structural unit Y' (*of formula 10*), and a combination thereof; wherein X' or Y', alone, is present in a total of **12-75 repeat units** ($10 < n < 75$); and wherein X' and Y', in combination, are present in a total of **12-75 repeat units** ($10 < (m + m') < 75$); **(B)** a generic curing agent.

In Group III, the special technical feature appears to be a combination of the following materials: **(A)** epoxy compound (H): represented by one of the general formulas (35)-(40); including at least one of: structural unit X' (*of formula 9*), structural unit Y' (*of formula 10*), and a combination thereof; wherein X' or Y', alone, is present in a total of **12-75 repeat units** ($10 < n < 75$); and wherein X' and Y', in combination, are present in a total of **12-75 repeat units** ($10 < (m + m') < 75$); and **(B)** a phenol resin (F): represented by one of the general formulas (21)-(26); including at least one of: structural unit X (*of formula 1?*), structural unit Y (*of formula 2?*), and a combination thereof; wherein X or Y, alone, is present in a total of **1-11 repeat units** ($0 \leq n \leq 10$); and wherein X and Y, in combination, are present in a total of **2-11 repeat units** ($1 \leq (m + m') \leq 10$).

In group IV, the special technical feature appears to be a combination of the following materials: **(A)** epoxy compound (E'), which is an epoxy compound of phenol resin (E); and **(B)** phenol resin (E): including at least one of: structural unit X (*of formula 1*), structural unit Y (*of formula 2*), and a combination thereof; featuring an unspecified overall structure, which is open to any overall structure including X, Y or a combination thereof; and wherein X, Y or a combination thereof are present in any total of repeat units.

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4. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- For the curing agent, Applicant is required to elect one of the following species of phenol resin:
 - Phenol resin of Formula (3) (*wherein $10 < n < 75$*);
 - Phenol resin of Formula (4) (*wherein $10 < n < 75$*);
 - Phenol resin of Formula (5) (*wherein $10 < n < 75$*);
 - Phenol resin of Formula (6) (*wherein $10 < n < 75$*);
 - Phenol resin of Formula (7) (*wherein $10 < (m + m') < 75$*);
 - Phenol resin of Formula (8) (*wherein $10 < (m + m') < 75$*);
 - Phenol resin of Formula (21) (*wherein $0 \leq n \leq 10$*);
 - Phenol resin of Formula (22) (*wherein $0 \leq n \leq 10$*);
 - Phenol resin of Formula (23) (*wherein $0 \leq n \leq 10$*);
 - Phenol resin of Formula (24) (*wherein $0 \leq n \leq 10$*);
 - Phenol resin of Formula (25) (*wherein $1 \leq (m + m') \leq 10$*);
 - Phenol resin of Formula (26) (*wherein $1 \leq (m + m') \leq 10$*);
- For the epoxy resin, Applicant is required to elect of the following species of epoxy resin:
 - Epoxy resin of Formula (11) (*wherein $0 \leq n \leq 10$*);
 - Epoxy resin of Formula (12) (*wherein $0 \leq n \leq 10$*);

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- Epoxy resin of Formula (13) (*wherein $0 \leq n \leq 10$*);
- Epoxy resin of Formula (14) (*wherein $0 \leq n \leq 10$*);
- Epoxy resin of Formula (15)* (*wherein $1 \leq (m+m') \leq 10$*);
 - Note* it appears that this structure should feature an epoxy group – not a hydroxyl group.
- Epoxy resin of Formula (16) (*wherein $1 \leq (m+m') \leq 10$*);
- Epoxy resin of Formula (35) (*wherein $10 < n < 75$*);
- Epoxy resin of Formula (36) (*wherein $10 < n < 75$*);
- Epoxy resin of Formula (37) (*wherein $10 < n < 75$*);
- Epoxy resin of Formula (38) (*wherein $10 < n < 75$*);
- Epoxy resin of Formula (39)* (*wherein $10 < (m+m') < 75$*);
 - Note* it appears that this structure should feature an epoxy group – not a hydroxyl group.
- Epoxy resin of Formula (40) (*wherein $10 < (m+m') < 75$*);

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species. MPEP

§ 809.02(a).

5. The claims are deemed to correspond to the species listed above in the following manner:

- For Group I: phenol resin species (3)-(8) are present in claims 1, 5-19, and 51-53. None of these claims are generic with respect to the list of phenol resin species. In addition, epoxy resin species (11)-(16) are present in claims 1, 5-19, and 51-53. None of these claims are generic with respect to the list of epoxy resin species.
- For Group II: claims 20 and 22-38 are generic with respect to the list of phenol resin species. In addition, epoxy resin species (35)-(40) are present in claims 20 and 22-38. None of these claims are generic with respect to the list of epoxy resin species.
- For Group III: phenol resin species (21)-(26) are present in claims 21 and 22-38. None of these claims are generic with respect to the list of phenol resin species. In addition, epoxy resin species (35)-(40) are present in claims 21 and 22-38. None of these claims are generic with respect to the list of epoxy resin species.
- For Group IV: claims 39 and 40-50 are generic with respect to the list of phenol resin species. In addition, claims 39 and 40-50 are generic with respect to the list of epoxy resin species.

6. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: each of the phenol resin species and the epoxy resin

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species are structurally distinct materials. Each distinct structure provides a distinct set of properties. Furthermore, there is nothing of record suggesting that they are obvious variations of one another.

7. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

December 1, 2009